TRANSPORTATION

INTRODUCTION

An appropriate transportation network for Maricopa County supports safe and efficient movement of goods and people, is environmentally compatible with surrounding conditions, and is supportive of economic development activities. This element identifies a system that consists of a primary, secondary, and local roadway network, combined with a series of overlays, to create a county roadway network. It defines a system of transportation facilities and services that may be developed in Maricopa County through the year 2020. The scope of this element includes not only existing and future roadway networks within the county, it also highlights regional efforts towards creating a multi-modal system to accommodate future transit, pedestrian, and bicycle needs.

Maricopa County is served by an extensive transportation system of highways, major thoroughfares, buses, regional airfields, and an international airport. In addition, a growing trail and bikeway system serves pedestrian and bicycle travel. This transportation system accommodates thousands of trips daily, mostly by single occupancy vehicles. However, the construction of transportation facilities within the county has not kept pace with development over the past 30 years. Increasing congestion on freeways and major arterials, combined with insufficient mass transit, highlights the need to develop a more comprehensive roadway and transit network within Maricopa County.

Several factors contributed to the transportation system that currently exists in Maricopa County. Many of these are related to the high rate of growth within the Phoenix metropolitan area and include not only the pace and quantity of land development within the county, but also its type and characteristics. Maricopa County development patterns are generally low density, suburban growth, with limited nonresidential land use and few employment centers outside the urban core. Other socioeconomic factors, such as high automobile dependency and two worker households, contribute to an increasing demand for transportation facilities.

Along with an increased demand for transportation services in Maricopa County, further complications arise from the patchwork of jurisdictional and political boundaries that dominate the Phoenix metropolitan area. The presence of county islands within

incorporated areas, rapidly expanding municipal boundaries, and the needs of rural county residents compete to complicate planning, funding, and implementation of transportation improvements within Maricopa County.

The better integration of land use planning with transportation planning is a principal method for achieving long term improvements in the transportation system in Maricopa County. Specifically, this means finding ways to support more efficient land use patterns related to transportation. One method is to concentrate densities along major existing or planned transportation corridors. Further, since roadway improvements alone cannot provide boundless transportation capacity into the future, actions to bring about less demand for capacity are also necessary.

The transportation element provides an overview of the roadway conditions, network connections, capacities, and limitations of the existing system. Supporting data for this element is available in the *Transportation Inventory and Analysis of Existing Conditions*, published in 1997. The goals and objectives outlined in this element emphasize the need to maximize and efficiently use the existing and future Maricopa County transportation systems by considering alternatives to automobile travel, while better coordinating land use as it relates to transportation planning.

ISSUES FOR TRANSPORTATION PLANNING

Discussions with the public and with partnering agencies within Maricopa County have focused on several key transportation related issues. These issues have been synthesized from public meetings, partnering sessions, and other public participation opportunities. These issues can be summarized as (not in priority order):

- Air quality
- Congestion
- Fuel (and other) taxes
- Incomplete freeway system
- Insufficient public transit
- Low density urban sprawl/inefficient roadway network
- Transportation funding sources

It is important to note that, like the other elements in this Comprehensive Plan, transportation issues do not stand alone. Numerous interrelated issues discussed in the public meetings cross element lines. These issues include annexations and the lingering effect of county islands, the location of future commercial development, low density unplanned sprawl, unplanned drainage and water management, growth management, alternatives for infrastructure financing, and compatibility with municipal plans. Each of these issues has an impact on transportation—and the transportation

network will influence these issues. Through careful linkages, each of these issues will be addressed within this document. Strategies and policies have been developed that, once implemented, should begin to mitigate the existing negative relationships between these issues.

EXISTING SURFACE TRANSPORTATION SYSTEM

Maricopa County is often criticized for being too reliant on the automobile. Cars dominate the lifestyle of most county residents. Plans for Maricopa County dating back over 30 years show a road network that is not too different from the one that has been constructed, or planned, today.

Maricopa County has 2,107 miles of rural roads and 722 miles of urban roads. To accommodate and plan for new roadway construction, it is helpful to organize them into a classification system. Many roadway classification systems are based upon purpose or function. Function is generally divided into two competing purposes: mobility and access. Mobility is based upon the volume of traffic moving at the greatest unimpeded speed along a given thoroughfare. Access is provided by accommodating low-speed and low-volume roadways with intersections and driveways. In Maricopa County, roads are classified as rural or urban roadways, and further classified according to the function they serve. These functions range from providing access to adjacent land uses to providing mobility with little or no access, based on their existing functional classification.

Freeways

The Arizona Department of Transportation (ADOT) is responsible for freeway maintenance and construction within Arizona. The Maricopa Association of Governments (MAG) is the regional agency responsible for planning freeways for the Phoenix metropolitan area. The MAG Long Range Transportation Plan (LRTP) calls for an 84% increase in freeway lane miles over the next 20 years. This consists of 76 new freeway centerline miles, increased high-occupancy vehicle lanes, and major investment studies to complete freeway corridor analyses.

Roads and Streets

The road network is the nucleus of the transportation system in Maricopa County. Automobiles, buses, trucks, and bicycles all strive for space on the network. Pedestrians compete for time to cross the street. While expansion of the network generally means accommodating additional automobiles, some reallocation of space and priorities is becoming necessary to encourage alternatives.

This Plan recommends that available resources be used to fund projects and programs that sustain mobility, access, safety, the environment, and economic development within and around Maricopa County. Further, preservation, rehabilitation, reconstruction, and improvement of existing roads are also recommended.

All roadways in Maricopa County have current and future functional classifications. The current classification is in accordance with the MCDOT Roadway Design Manual, Chapter Five, Geometric Design Standards, adopted on November 3, 1993. A roadway's future classification is also based on the MCDOT Roadway Design Manual and other factors. These factors typically include future traffic volumes, land use compatibility, county Comprehensive Plan recommendations, and local transportation circulation elements.

Functional classification is a long range planning tool that helps link land use with transportation. Functional classification further allows for the preservation of right-of-way in the future as properties are developed.

Arterials

Roads in the network are classified as rural principal arterials, rural minor arterials, urban principal arterials, or urban minor arterials. Depending on the connections and the character of the adjacent land use, the patterns of use vary along the arterials. Arterials typically have four to six lanes and average traffic volumes of 6,000-45,000 vehicles per day. In general, arterials are designed and managed for through, or regional, travel.

The characteristics of the arterial network make these roads particularly suited to regional commuting. Parking is often restricted on these routes and would remain so for future planning considerations. Further, arterial roads that act as regional connectors may be candidates for widening, possible speed limit increases, or other capacity increases. They may also be suitable for additional transit opportunities such as busways, bike lanes, or carpool/vanpool lanes.

Collector Roads

Collector roads are divided into rural major and minor collectors, and urban collectors. As with the arterial system, usage varies depending on the location of the road and the nearby land uses. Collector roads are designed as two lane roads with average traffic volumes of 500-18,000 vehicles per day. Traffic movement along collector roads serves intra-community travel and routes of higher classifications.

Since collector roads are less critical to regional commuting, they may be suitable candidates for traffic calming, parking, pedestrians, and bicycle lanes. Speeds and road standards should be kept consistent with the character of the neighborhood or area, and road widths should be determined based on compatibility with the terrain, particularly in hillside areas.

Local Roads

Rural local roads and urban local roads (also known as residential roads) differ primarily by design characteristics and land use. Both are designed to serve primarily local traffic, have only two lanes, and have average traffic volumes of less than 1,000 vehicles per day.

PUBLIC TRANSIT

A continuing regional effort has been looking for better ways to encourage development patterns that reduce the need for automobile travel through alternative modes and shortened trips. At the most comprehensive level, reduced auto usage may result in improved air quality, agricultural and open space preservation through a more compact urban form, and help build a sense of community. Further, transit can be more effective when it is a viable alternative to congested roadways, high parking costs, and limited parking availability. Transit should not only serve the transit-dependent rider, but the general public.

In addition, an important part of regional transit is the development of transit stations that can become activity centers by:

- Encouraging economic development by creating and attracting businesses near transit stations
- Improving air quality by reducing the number and length of automobile trips. (If bicycling and walking are also encouraged, air quality can be further improved)
- Providing a choice of housing options by encouraging mixed-use development of varying densities

Growth in any area is desirable and is the by-product of an effective, healthy, and aggressive economy. As Maricopa County grows, an efficient multi-modal system will require development patterns that advance alternatives to automobile travel for work and non-work trips. This is particularly true as jobs are dispersed throughout the county and regional densities approach the scale of the central metropolitan area. To meet this challenge, the Intermodal Surface Transportation Efficiency Act (ISTEA) reinforced the necessity for regional planning efforts aimed at creating a better union of transportation and land use planning.

Bus

In order to expand the roadways available for bus transit, the county's arterial network should be suited for the highest degree of public transit use. One option to enhance bus service is the development of a bus network that places emphasis on community circulators to provide more cost-effective bus service to suburban areas using smaller, neighborhood-friendly vehicles. Other options would be to extend the hours of daily bus service, add Sunday service throughout the metropolitan area, implement new routes and trips, use alternative fuel vehicles, and expand passenger bench and shelter programs.

Rail

Rail systems under consideration in Maricopa County include light rail, heavy rail, and

commuter rail. Commuter rail consists of short-haul rail passenger service operated within metropolitan and suburban areas. Light rail is generally the least expensive because it involves lighter vehicles and structures, more design flexibility, more frequent stops, and lower operating costs. Most newer rail systems in the United States are light rail systems. Heavy rail is more expensive, but usually covers a larger geographic area than light rail systems. Heavy rail is an electric powered rail transit system that operates on a completely grade separated right-of-way. It is generally characterized by wide station spacing (1 to 2 miles apart), high average operating speeds, and greater capacity than light rail. In general, both light rail and heavy rail use dedicated tracks.

Growth in Maricopa County has followed a dispersed pattern, relying on automobiles for most travel. Lack of density, combined with concern for the cost of a new or improved transit system, are often seen as hindrances to transit expansion. However, to encourage the use of rail transit, the alternative modes must have sufficient capacity and be safe, convenient, and attractive. In Maricopa County, this would mean investing in new systems. Since a variety of technologies are available, decisions must be made as to the most appropriate system for the metropolitan area.

The challenge for rail systems continues to be to find a way to address the specific benefits of such a system, while justifying its cost. The county supports further study of the creation of rail service and is willing to be a stakeholder in the study process.

ALTERNATIVE MODES AND TELECOMMUTING

Alternative modes of transportation must play an increasingly larger role in the transportation system of the future. Key to the transportation goal is the notion of “integrated” and “multi-modal” transportation systems. This holds true for alternative systems, particularly when planning for a balanced circulation system through efficient placement of employment and services, and encouragement of bicycling, walking, and transit as alternatives. It will be important, however, to continue extensive publicity campaigns and public involvement programs to move toward modes of travel other than single occupancy vehicles.

Pedestrian

Provisions for pedestrians are encouraged in this Comprehensive Plan. With adequate facilities and appropriate urban design, walking can be used as a mode of travel for school, convenience shopping, recreation, social, and even work trips. Pedestrian facilities can be accommodated as enhancements with new roadway construction or maintenance. However, urban design issues allowing short walk trips must be addressed before significant walk trips will occur. For example, subdivisions designed as “enclaves” and homogeneous land uses are often not favorable to pedestrian activities.

In 1993, a MAG Pedestrian Plan described policies to bolster walking activities, and indicated areas where these approaches might best be implemented.

Bicycles

A regional bicycle plan was developed in 1991 and incorporated into the MAG Long Range Transportation Plan in July, 1992. The plan is currently being updated.

The plan identifies interconnected routes for bicycle travel within and through the region. Included in this system are on-street bike lanes and signed bicycle routes. Also included is an off-street multiple use path system that generally follows existing canals and riverbanks in the urbanized area and the Central Arizona Project canal to the north and east. The major policy goals of the bicycle plan are:

- Provide for bicyclists in transportation programs and projects.
- Improve safety by educating bicyclists and motorists to share the road.
- Promote awareness of the benefits of bicycle transportation to engineers and planning professionals engaged in the development of transportation projects.
- Support enforcement of applicable traffic laws to improve traffic safety and enhance courtesy among roadway users. Promote strict prosecution of traffic infractions to increase respect for riding privileges.
- Promote bicycling as a viable means of transportation and as a healthful form of recreation.

Bicycle projects are funded under various ISTEA programs administered by ADOT and MAG. Many jurisdictions are implementing local bicycle facilities. New roadway construction should include bicycle facilities to increase opportunities for those who choose to bicycle.

Intermodalism

Efforts should be made to provide points of interaction and efficient transfer among the various modes of transportation. This concept has broad implications and a wide scope of possibilities including station area development, mixed-use development, or multi-modal centers for transfer of goods. Intermodal efforts include continuing the “Bike on Bus” program, and redevelopment and adaptive reuse along existing transportation routes.

Telecommuting

With the arrival of new technology and socioeconomic changes, telecommuting is becoming a viable option for many employers and employees. Telecommuting allows employees to connect to a central office with a personal computer and modem or fax machine. Some workers may telecommute full time, while others only part time. The transportation advantages of telecommuting are trip reduction, reduced single

occupancy vehicle usage, and reduced roadway congestion. These types of programs also have the potential to contribute to improved air quality.

Research indicates that 30-40% of workers have jobs that would allow telecommuting at least one day per week. To promote this, the Regional Public Transportation Authority (RPTA) has developed a series of workshops, training sessions, and public relations campaigns to educate employers and employees.

Miscellaneous

Rural Public Transit Services

Providing public transit service for residents in rural communities is vital to their mobility and quality of life. Public transportation can be provided through general public transit service, program related service, and privately operated service. Residents in unincorporated Maricopa County have limited transit services available. Transit in rural areas is currently limited to programs related to human services trips and privately operated service. Program related services only provide trips for the elderly, disabled, and low income riders. Services operate like a traditional dial-a-ride program and do not provide assistance to everyone who may need it.

To understand the needs of the unincorporated residents, Maricopa County conducted a rural transit study in 1997. Findings indicate a significant shortfall between available services and existing needs. The study also suggested that most peer counties take a more active role in providing public transportation for their residents. This plan identifies existing demand for rural public transportation and a strategy to implement needed services. The plan's findings are consistent with the goals and objectives outlined in this document. The findings from the study will also be included in the Transportation System Plan.

Park-and-Ride Facilities

Park-and-ride facilities are an important component to the success of carpool programs and increased bus ridership. Maricopa County has contributed to the development of regional park-and-ride facilities and will continue involvement where it supports trip reduction. There are several large stand alone park-and-ride facilities throughout Maricopa County and many smaller facilities incorporated into existing parking lots. The county supports the development of carpool facilities that are part of the regional park-and-ride lot network. Today, there are over 60 such facilities in the metropolitan area with over 2,500 parking spaces available. Continued growth will propel the need for more of these facilities, especially where they can support the growing public transportation network.

Intelligent Transportation Systems

Intelligent Transportation Systems (ITS) is a program of a broad range of diverse

technologies. Authorized under ISTEA, projects developed through the ITS program enhance transportation needs in the areas of safety, congestion management, traveler information, and incident identification. ITS can collect and transmit information on traffic conditions, alert travelers to hazards and delays, reroute traffic around delays, automatically collect tolls, automate dispatching, improve productivity through tracking systems, and provide route guidance. In Arizona, the application of ITS technologies has been a standard for the past 15 years. Communications and long standing partnerships among federal, state, county, metropolitan planning organizations, and municipalities throughout the state have culminated in an integrated, interoperable transportation system. Applications of ITS are only limited by the imagination. At present, numerous projects are ongoing in various aspects of the transportation industry.

Maricopa County is a partner with the FHWA, ADOT, MAG, RPTA, local governments, and private industry to promote more efficient use of transportation through advanced technology and communication. National and local standards for "Intelligent Transportation Infrastructure" to support ITS are being developed. These standards, when adopted, will be incorporated into county policies and procedures for design and development review.

REGIONAL TRANSPORTATION PLANNING

Maricopa Association of Governments

Long Range Transportation Plan

The Maricopa Association of Governments (MAG) has prepared a Long Range Transportation Plan (LRTP) that addresses all modes of transportation through 2015. An update of the plan was completed in 1996. The LRTP covers airports, roads (including freeways and streets), pedestrian and bicycle systems, and transit. The county Transportation System Plan will be developed in close coordination with the MAG LRTP, particularly in those areas where the goals are similar. This will include close coordination with land use planning, the preservation of existing transportation facilities, congestion management, efficient financial programming, and region-wide connectivity.

Transportation Management Systems

The Intermodal Surface Transportation Efficiency Act (ISTEA) resulted in a new standard for productive, environmentally sound, and safe transportation systems. By providing a framework for new and expanded opportunities to improve surface transportation, ISTEA changed the way transportation planning is conducted in the United States. Over a six year period, ISTEA allocated more than $155 billion in funding for projects throughout the United States. This is 75% more than previous legislation. Local governments are given significant roles in planning and decision-making under this legislation. ISTEA requires state and metropolitan planning organizations (MPOs)

Table 1-Transportation Management Systems		
Management System	**Lead Agency**	**Operational Status**
Congestion Management System	MAG	Fully Operational
Intermodal Management System	MAG	Fully Operational
Pavement Management System	ADOT	Partially operational
Safety Management System	ADOT	Under development
Bridge Management System	ADOT	Largely operational
Public Transportation Management System	RPTA	Under development

to develop and apply various management systems. Management systems provide information to optimize the transportation system, leading to project selection and funding. MCDOT will develop and implement the following systems (Table 1-Transportation Management Systems):[2]

Roads of Regional Significance

The Roads of Regional Significance (RRS) concept was developed to have a system of roadways, secondary to the freeway system, that would carry more than half of the vehicle miles of travel within the region. Routes comprising the RRS design concept incorporate principal arterial streets consisting of a three to six mile grid of roadways constructed to a high level of design. The RRS was adopted as an advisory concept by the MAG Regional Council in the Spring of 1990.

Roads of Regional Significance consist of "Gateway" and "Urban" routes:

- Gateway RRS are portions of existing state routes that render system continuity and expedite travel entering and leaving the region.
- Urban RRS are existing streets spaced three to six miles apart, which provide for regional system continuity and have the capacity to be improved to high design standards.

Maricopa County

Maricopa County is responsible for short-, medium-, and long-range transportation planning within the county-owned and maintained roadway network. This section summarizes some of these larger efforts.

[2] For information on ISTEA Systems, refer to *Transportation Inventory and Analysis of Existing Conditions*, 1997.

Capital Improvements Program

The Capital Improvements Program (CIP) is designed to fulfill MCDOT's mission to provide a quality transportation system at the right time at the right cost. County transportation planners and engineers develop the five-year plan from the combined recommendations of county residents, their elected representatives, the municipalities, and MCDOT staff. MCDOT reviews the combined recommendations and applies a scoring and ranking process to all project requests, evaluating such considerations as traffic volume, safety, problem conditions, environmental impact, economic impact, and costs. The projects are prioritized and presented to the Transportation Advisory Board (TAB) for further review.

Many factors contribute to the programming process. As the CIP develops, MCDOT looks for ways to best apply county resources. Federal aid, legislative mandates, and environmental and archaeological considerations are all part of the prioritization process.

Transportation Systems Plan

The transportation element is a key component of the Comprehensive Plan. The land use and transportation impacts expected as a part of the implementation of this Plan are considered in the Transportation Systems Plan (TSP). The TSP evaluates the regional impacts of the transportation system and defines a comprehensive county transportation system with supporting plans, policies, and programs. The TSP should be considered the principal implementation component of the transportation element. It focuses on MCDOT issues, particularly customer service, the impact of technology, and regional issues.

The Transportation System Plan organizes roadways under MCDOT's jurisdiction. It helps identify priorities for funding and maintenance, and provides a mechanism to effectively invest the department's resources. The TSP system is designed to be a flexible, proactive tool for system planning and capital programming beyond the five-year CIP horizon.

The TSP defines a roadway system organized into primary, secondary, and local roads. It also includes bridges and a series of overlays[3] (See Figure 6-Transportation System Plan). In order to categorize county roadways, those serving regional interests and required for roadway system performance were identified.

Primary roadways are significant routes for regional travel. The county will give high priority to improving primary roadways under its jurisdiction. The county also recognizes opportunities inherent in partnering with other jurisdictions for primary roadway improvements.

Secondary roadways serve primarily subregional travel. Improvements to secondary county roadways will be programmed based in part on their proximity to neighboring or surrounding jurisdictions and availability of other urban services.

[3] Overlays include: scenic, recreational, emergency management, intelligent transportation systems, bicycle, and transit.

Table 2-Transportation System Plan Funding Priorities			
Area: **System:**	**Primary**	**Secondary**	**Local**
Urban Service Area	H	M	L
Rural Development Area	H	L	L
Established Community/Existing DMP's	H	L	L
General Plan Development Area	M	L	L
Incorporated	L	N	N
New Development Master Plan	M	DR	DR

Local county roadways serve nearby development and as collectors for primary and secondary roadways. In general, the county will only program major improvements to local roadways where there is a special need or unless there is extensive participation[4] from the surrounding community.Table 2 summarizes the relationship between the transportation element of the Comprehensive Plan and the TSP, and highlights the system funding priorities by land use category (See Table 2-Transportation System Plan Funding Priorities).

When considering investment potential, MCDOT will participate in "High" priority projects for planning, design, and construction. Under this scenario, the availability of partnering opportunities is an advantage, but not a requirement. MCDOT will also fully participate in "Medium" priority projects, but partners will be required. Finally, MCDOT will only participate in the planning and design of "Low" priority projects, and partners will be required. Further, MCDOT will "Not" participate in secondary or local road projects in incorporated areas, and will require a project developer (DR) to assume all responsibly for non-imary road projects within Development Master Plans. MCDOT recognizes its responsibility to operate and maintain all publicly accessible roadways built to MCDOT roadway standards located in its jurisdiction. MCDOT will also consider partnering efforts with developers to provide additional resources to accommodate future increases in regional travel on primary roads. The developer's responsibility is to provide funding for roadway projects in proportion to traffic generated by the development.

Major Streets and Routes Plan

A Major Streets and Routes Plan (MSRP) will be proposed and implemented upon completion of the TSP. The MSRP is expected to define and map specific development requirements as they apply to primary and secondary roadways. The proposed plan will be supported by other county ordinances that apply to zoning and development review, as well as other right-of-way requirements where no roadways currently exist.

[4] Assessment from within improvement districts is the most common form of participation.

For Figure 6 - Transportation System Plan:

See Figure 6.pdf file

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The MSRP is expected to specify right-of-way setback and overlay definitions to be applied on current and future routes. It will provide a legal basis for reasonable and consistent limitations on development near county roadways.

Small Area Transportation Studies

Four regional transportation studies have been completed or are underway in Maricopa County. These studies will be implemented as a part of this comprehensive planning process and the TSP:

- The ***Northeast Valley Area Transportation Study*** produced a transportation plan encompassing the New River and Desert Hills communities. The transportation plan contains a five-year program, a ten-year action plan, and a long-range transportation plan for the study area. The Board of Supervisors adopted this study on November 6, 1996.
- MCDOT, in cooperation with the communities of Avondale, Goodyear, Litchfield Park, Buckeye, and Tolleson, initiated the ***Southwest Valley Transportation Study*** in the Fall of 1995. The study involves development of evaluation methodologies and standards, an inventory of existing conditions, formulation of transportation goals and policies, and traffic forecasting based on current socioeconomic data and MAG regional travel models. A sensitivity analysis regarding a more aggressive growth scenario for the Town of Buckeye and vicinity was also performed.
- The ***Williams Area Transportation Plan*** was prepared by the Williams Gateway Airport Authority and Maricopa County in conjunction with consultants and representatives of local jurisdictions, state organizations, and regional planning and transportation authorities. A major growth node within the study area is the former Williams Air Force Base property. Redevelopment plans for the property include a reliever airport, an aerospace center, and an extension of Arizona State University's (ASU) campus. The center also plans to accommodate general aviation, cargo, commercial passenger service, and aerospace manufacturing, maintenance and modification.
- The ***Northwest Area Transportation Plan*** will be completed in 1998.

Transportation-related recommendations from the area land use plans will also be included in the Transportation System Plan.

Life Cycle Analysis

As they currently exist or are planned, each of the roadway and management systems operate as stand-alone systems. For example, the Pavement Management System does not take into consideration safety issues from the Safety Management System, and the Intermodal Management System will not be affected by maintenance costs arising from the Bridge Management System. Moreover, the county-wide effects of

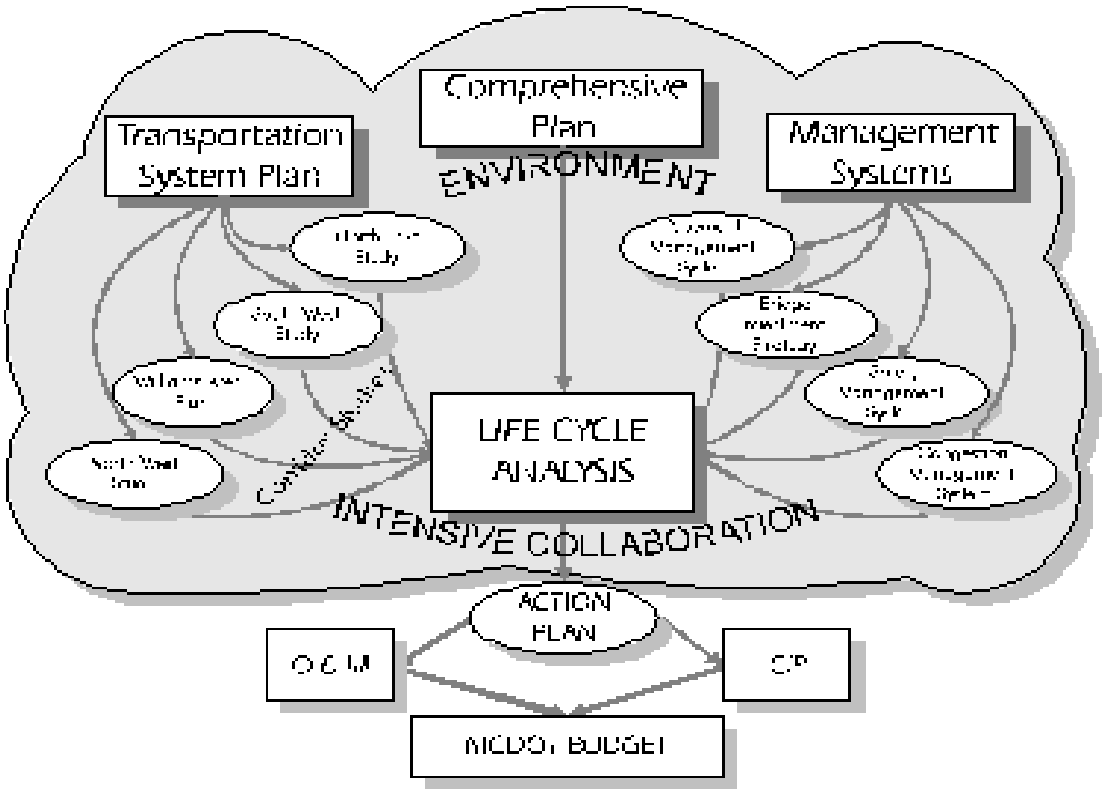

Figure 7-Life Cycle Analysis

the small transportation studies must also be examined. If a study recommends improvements within one region of the County, transportation systems in other areas may also be affected.

Life cycle analysis (Figure 7-Life Cycle Analysis) seeks to study the analysis derived from the various roadway and management systems, the County Comprehensive Plan, and the regional transportation studies, and evaluate the long-term decisions rendered by each. This analysis usually takes the form of a fiscal evaluation, but is not limited to this.

Economic Analysis

Economic evaluation provides a cost/benefit structure to determine the worthiness of a given project. Economic analysis compares similar things, such as the alternatives of a particular project. It may also be performed to compare dissimilar options, such as increased transit service, in contrast with building additional roadways. Ultimately, proper economic analysis ensures that a project will result in effective and efficient use of public money while meeting the transportation needs of the public. Economic analyses are generally a required part of project inception, design, and construction, and provide decision makers with the basis to make informed and sometimes difficult choices.

GOALS, OBJECTIVES, AND POLICIES

The goal of the transportation element of the Maricopa County Comprehensive Plan is a declaration of anticipated and ideal results based on a combination of community endeavors and professional opinion. The goals address relevant transportation inputs into the regional growth and development process within the county. The intent is that the transportation improvements and alternative mode development process will contribute to an improved quality of life for the residents of Maricopa County.

The goal of the transportation element is to:

Provide an efficient, cost-effective, integrated, accessible, environmentally sensitive, and safe county-wide multi-modal system that addresses existing and future roadway networks, as well as promotes transit, bikeways, and pedestrian travel.

Within this goal, the following objectives and policies apply:

Objective T1 Reduce the proportion of trips made in single occupancy vehicles.

Policy T1.1 Encourage transit oriented development.

Policy T1.2 Explore and encourage options to increase bikeways.

Policy T1.3 Explore and encourage options to increase pedestrian facilities.

Policy T1.4 Explore and encourage telecommuting and teleconferencing options.

Policy T1.5 Encourage the development of market incentives for transit and vehicle reduction opportunities.

Policy T1.6 Explore congestion pricing options during peak travel hours.

Policy T1.7 Explore and encourage options to expand the trip reduction program.

Objective T2 Increase transit ridership.

Policy T2.1 Support the 100% subsidy of Maricopa County employee transit use.

Policy T2.2 Support and encourage increased funding for transit.

Objective T3 Employ applicable technology to improve the use of transportation facilities.

Policy T3.1 Continue financial support for Intelligent Transportation Systems (ITS). This should include, but not be limited to:

Global Positioning System (GPS)	Kiosks
Traffic Operations Centers (TOCs)	Internet
Closed Circuit TV	Messageboards

Policy T3.2 Encourage future roadway development to use technological innovations to accommodate future communication technologies.

Policy T3.3 Continue efforts to coordinate regional signal synchronization and coordination.

Policy T3.4 Encourage the development of alternative fuels recharge stations.

Policy T3.5 Encourage and participate in the expansion of the Traffic Management Systems (TMS) to the arterial system.

Policy T3.6 Encourage the development of an incident management response system.

Policy T3.7 Develop public/private partnerships to encourage technological advances.

Objective T4 Identify and accommodate transportation corridors.

Policy T4.1 Model new corridors.

Policy T4.2 Monitor development and subdivision proposals.

Policy T4.3 Develop the Major Streets and Routes Plan.

Policy T4.4 Develop and implement a Congestion Management System.

Policy T4.5 Identify future activity centers.

Policy T4.6 Identify current and future recreation centers and corridors.

Objective T5 Optimize public investments.

Policy T5.1 Promote and encourage inter-jurisdictional partnerships.

Policy T5.2 Resolve county island/strip annexation issues using existing plans and legislative opportunities.

Policy T5.3 Utilize the functional classification system or MSRP to ensure sufficient right-of-way for future roadway needs.

Policy T5.4 Utilize incentives to promote developer participation.

Policy T5.5 Develop and implement Bridge Investment and Pavement Management Systems.

Policy T5.6 Encourage multi-modal alternatives in all investment proposals.

Policy T5.7 Apply cost effectiveness guidelines for public investments in order to gauge intangible costs (i.e. air pollution).

Policy T5.8 Explore the development of an equitable user fee structure.

Policy T5.9 Evaluate benefit/cost ratios on all public roadway projects.

Policy T5.10 Enter into partnering agreements to provide additional resources to allow future increases in regional travel on primary roads.

Objective T6 Minimize travel times.

Policy T6.1 Identify future regional by-pass routes.

Policy T6.2 Maintain level of service C or better for all roadways and intersections.

Policy T6.3 Reduce unwarranted signals.

Objective T7 Reduce crashes.

Policy T7.1 Develop and implement a Safety Management System.

Objective T8 Minimize and mitigate impacts of construction and operation.

Policy T8.1 Increase and standardize field monitoring.

Policy T8.2 Publish and promote traffic control requirements.

Policy T8.3 Reduce length of lane and total road closures per project.

To implement these goals, objectives, and policies, Maricopa County can invest in its transportation system in any combination allowed by state statutes. These investments are prioritized along the following guidelines:

1. Develop a seamless transportation system
2. Maintain the existing system
3. Serve the needs of existing and future development in unincorporated Maricopa County
4. Serve regional travel
5. Direct future growth to the Urban Service Areas and DMPs[5]

These management philosophies are guided by the MCDOT's Strategic Plan through its vision, mission, and values statements. The MCDOT vision is:

> *We set a standard of excellence regionally enabling us to consistently deliver on our commitment to provide the right transportation system for Maricopa County, at the right time and the right cost.*

These management guidelines are further guided by five core assumptions:

- Maricopa County seeks to plan, establish, and construct a seamless regional system of county highways that serve as a regional travel network for all county residents, regardless of jurisdictional boundaries.
- Maricopa County seeks to integrate the Comprehensive Plan and Transportation System Plan with its Transportation Investment Strategy. The

[5] Refer to the land use element for descriptions of the land use categories.

county seeks to establish a clear, rational transportation policy in these documents, and implementation through a transportation programming system.

- Maricopa County seeks to support economic development, protect and enhance the environment and communities within the county, and develop insightful policy direction and clear transportation spending priorities.
- Maricopa County seeks to establish funding priorities in the area of regional county highways, arterial and collector roads, and the local county street network.
- Maricopa County seeks to end the practice of municipal annexations that do not include the roadways that serve adjacent developments and confuse the transportation investment role of cities and the county alike.